

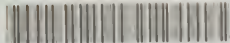
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HOW TO TEACH BEGINNING READING

SAMUEL CHISTER PARKER

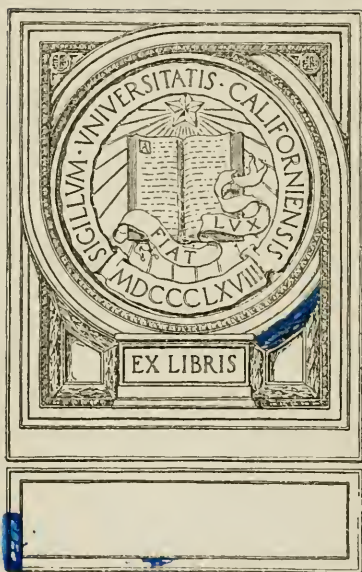
Professor of Educational Methods

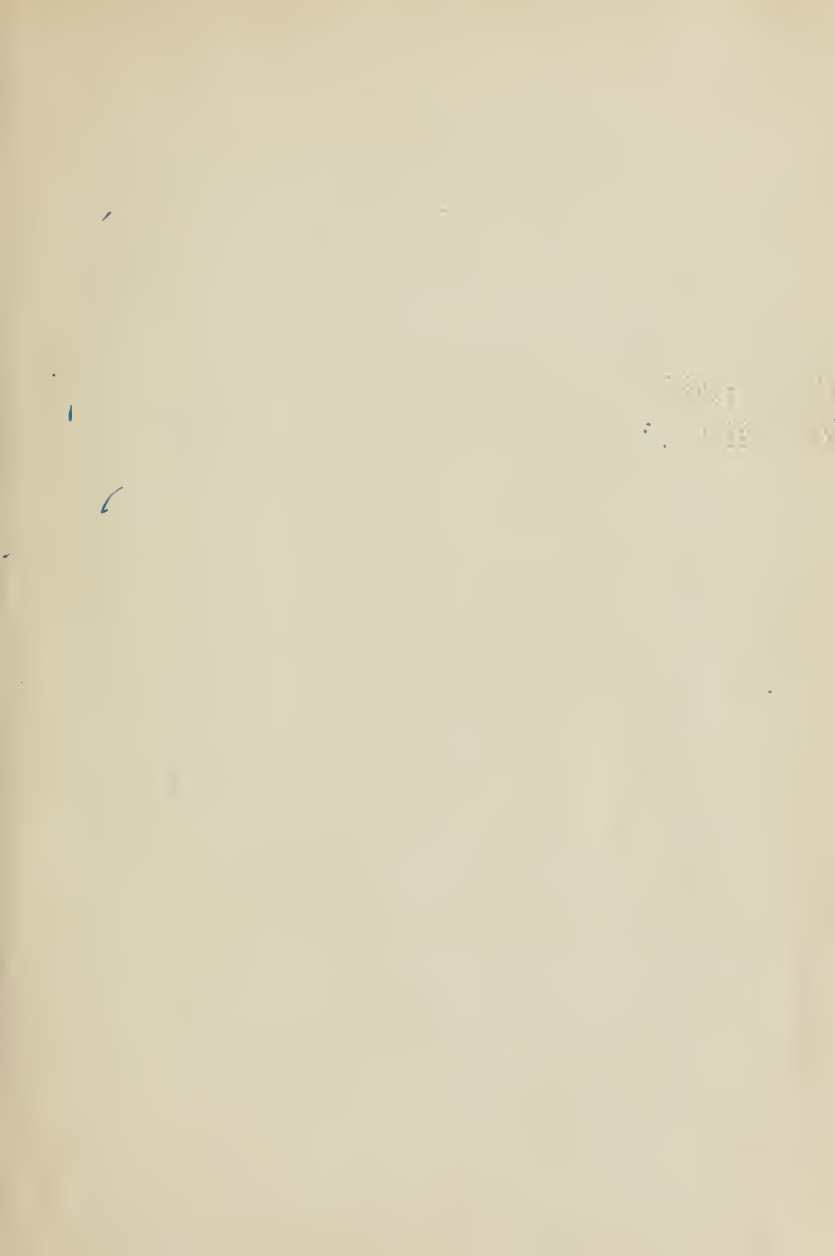
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HOW TO TEACH BEGINNING READING

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University of Chicago

ARTICLE I

Highly developed technique.—Methods and devices for teaching beginning reading have been perfected to a very high degree in some of the model schools of the country. By means of reports of actual lessons observed, we hope through this series of articles to familiarize more teachers and supervisors with these methods. In order to show the validity of the practices described, we shall present also the scientific principles and evidence which justify the methods used.

Sections of the discussion.—The discussion will be organized under the following headings: I. General picture of first-grade activities. II. Pre-primer blackboard and chart reading. III. Beginning book reading. IV. Independent recognition of new words: phonetic analysis. V. A second-grade lesson illustrating achievements and technique. VI. Scientific investigations of reading.

In sections II to IV inclusive we shall present detailed accounts of first-grade lessons taught by Miss Marjorie Hardy, and in section V a second-grade lesson by Miss Laura Lucas, both of the University of Chicago Elementary School.

I. GENERAL PICTURE OF FIRST-GRADE ACTIVITIES

Beginning reading no longer the "scourge of infancy" but the road to fairyland.—By describing these lessons in detail we shall give the reader some feeling of the atmosphere of a modern school-room in which the fine art of teaching has been perfected through careful study and practice. In such a situation, learning to read is no longer the "scourge of infancy," as Rousseau called it in 1762, and as it was in many places even a generation ago. Instead, our modern teaching early opens to children the road to the fairyland

¹ Sample lessons taught by Marjorie Hardy and Laura Lucas.

of fable, myth, adventure, and romance as found in the world of children's books. Every step that they take along this road under the teacher's guidance is playful and delightful. At the same time each step is a part of a most systematic and progressive scheme of learning, all parts of which have been definitely planned in advance. Yet so thoroughly are the various teaching processes adapted to the children's instinctive interests and activities that *delight in learning* and *systematic progress* go hand in hand.

Much incidental reading connected with studies of home and farm.
—Since much of the reading in Miss Hardy's room was intimately connected with other activities of the children, it is desirable to get an idea of the general course of study in the first grade in order to understand the principles of teaching upon which the reading was based. The work of the first two or three months in this first grade was very much like that of an advanced kindergarten group, plus specific training in reading and number. Like a progressive kindergarten, the first grade introduced children to a study of home and community life through play, this being the first step in a progressive study of social life, which, as it continues through the grades, develops into the history, geography, and civics of the later years. The first social unit studied was the home. The children talked about the rooms which they had in their own homes and the purposes that each served, using such sentences as, "We cook in the kitchen. We eat in the diningroom. We sleep in the bedroom," etc. Playrooms were constructed out of blocks or paper or cardboard. Each child chose a room, planned the necessary furniture, constructed it, described his plans and his work, etc. The little sentences quoted were used incidentally for reading material.

The study of the home was followed by a study of farm life. The farmyard, its buildings, occupants, etc., were constructed in a sand pan after making a large plan with labels for the house, barn, road, etc. The story of the farmer bringing his crops to town or to the railroad for shipment was developed. Some of the products were followed into the grocery store which was studied for a few days and linked up with the activities of the home. Thus the children were given a playful but thoughtful initiation

into the study of social activities and the interdependence of various social units—families, farms, stores, etc.—in the community. In connection with these studies there was much incidental reading, counting, and measuring.

Specific reading lessons began with favorite nursery games and rhymes.—In addition to these meaningful social studies, another type of kindergarten activity was extensively used in this first grade, namely, children's games centering around nursery rhymes and songs, such as "Jack jump over the candlestick," "Jack and Jill," and "The old cat is asleep."

These rhythmic but often nonsensical games and songs constitute one of the most characteristic and pleasurable features of child life. In the kindergarten such nursery rhymes are used in the form of games to train in physical activity, rhythmic control, singing, oral expression, co-operation, etc. The same educational ends were served by these activities in the first grade. In addition, however, they furnished the subject-matter for many of the reading lessons of the first few weeks.

Fifteen minutes of specific reading plus much incidental reading.—With this general picture of work and play during the first few months in the first grade, we may proceed to a description of the teaching of reading which I observed during the period set apart for it in the daily program. This period occupied about fifteen to twenty minutes in the morning. In addition to this specific period there was, as has been stated, much incidental reading throughout the day which I did not see. In conversation, Miss Hardy emphasized the fact that every activity during the day was made the basis of some reading. This might be a "line for the day" on the bulletin board in the morning, e.g., "We plant our bulbs today," a word here, a phrase or sentence there, etc.

Even specific reading period contained variety of activities.—On the other hand, the intensive reading period of fifteen minutes did not consist of a mere continuous reading of one kind, but was broken up into a variety of activities which will appear in the descriptions that follow. This variety is necessary in order to avoid the nervous strain, inattention, and consequent waste that result from prolonged concern with a single form of intellectual activity with children of this age.

Homelike atmosphere of room puts children at ease.—Most of the children in Miss Hardy's room had not attended a kindergarten; hence the first days' activities were especially arranged to make the little ones feel at home and comfortable and contented in the strange new environment. Blocks, balls, dolls, and other playthings were on hand, and a general homelike atmosphere was created. The effect of one item was noted in the remark of a child who told his mother, "We have *curtains* in our room at school just like we have at home."

II. PRE-PRIMER BLACKBOARD AND CHART READING

A. SAMPLE LESSONS

Action words and games provided first reading material.—The first reading experiences were given in connection with the following action words: run, hop, skip, jump. These were written on the board and taught by means of a game in which one child "blinded" his eyes in the corner; another child ran to the board and pointed at the word, e.g. "hop", whispered it to the teacher, hopped to his seat, and said, "Ready." Thereupon the child in the corner said, "I heard you hop" (provided he guessed right), and ran to the blackboard and pointed at the word "hop." These activities occurred frequently during the day and provided fun for the children as well as relaxation and physical exercise. When the children had to go to the board, or to any other part of the room, the teacher frequently wrote "hop" or "skip," etc. on the blackboard and the children used the corresponding method of locomotion.

FIRST DAY WITH "JACK BE NIMBLE"

Nursery rhyme from books which children had examined.—On the fourth day of school the teacher introduced during the reading period the nursery rhyme:

Jack be nimble,
Jack be quick,
Jack jump over
The candlestick.

The children had been examining various books of nursery rhymes found on the "library table" at one side of the room. Miss Hardy asked some children to show her their favorite rhymes and

then skilfully centered their attention on one suitable for an easy reading lesson, namely, "Jack jump over the candlestick."

Games played with candlestick and at blackboard.—A candlestick which had been provided for the occasion was brought out and the children played a game of jumping over it, meanwhile becoming more familiar with the rhyme. Miss Hardy then said she knew another way of playing the game in which all could play it at once. The children wondered how it could be done, and the teacher showed them how to represent a candlestick on the blackboard with the chalk and how to show Jack jumping back and forth by curved lines. The children exhibited considerable individuality in their drawings of the candlestick, some adding a little curved handle, others adding the flame with smoke trailing off. They practiced the rhythmic sweeps, back and forth, while reciting the rhyme in unison.

Pupils told teacher how to write rhyme on blackboard.—Finally, Miss Hardy said, "Wouldn't it be fun to have this rhyme written on the blackboard so we can all see it and read it instead of having just one copy in the book? . . . I will write it; but you must help me by telling me just what to say. . . . Who can tell me what to write first?" A boy said, "Jack be nimble." She wrote this line and then proceeded to write the other lines as the children dictated them. This process exemplified *the finest art in teaching the first reading lesson* with continuous material. Why? We shall see when we come to the systematic discussion of the principles of teaching first-grade reading which follows this story. Meanwhile, we may note that the end of the reading period had arrived and Miss Hardy told the children she would write "Save" on the blackboard so that the janitor would not erase their rhyme until they wanted him to.

Great detail of fine technique illustrated by fuller descriptions.—In order to illustrate how many devices and varied processes are included in the initial teaching of reading we shall describe in somewhat greater detail the reading lessons which followed the first presentation of the rhyme. Some of these devices illustrate not only the teaching of reading itself but also the intimate correlation with other activities and procedures in order to avoid fatigue and inattention.

SECOND DAY WITH "JACK BE NIMBLE"

Reading from large printed chart.—The next day, at the beginning of the reading period, the class counted in concert the number of children present in the group, and one child then counted out the appropriate number of little chairs and arranged them in a semicircle at the front of the room not far from the blackboard. The teacher then wrote "skip" on the board, and the children skipped gaily to their places. After they were settled and attentive the teacher recalled the rhyme of the day before, asking them how many lines were in it, and recalled that they had written "Save" on the board. But the rhyme was no longer there. She then said: "I have a surprise for you today. I have the rhyme with a picture printed on a chart [which she then hung before them] so the janitor could clean the blackboard. Let's see if we can all read the rhyme from the chart just as we did from the blackboard yesterday."

Group reading of whole rhyme.—The teacher then held a long strip of cardboard under each line as she and the children read it in unison.

Individual reading of whole rhyme.—Several children were then given a chance to read the rhyme individually while the teacher moved the cardboard strip down.

"Show us the line that says."—The teacher then said, "Who can run up and show us the line that says, 'The candlestick'?—Margery." Margery held the strip of cardboard under the right line. "Who sees the line that says, 'Jack, be nimble'?—Richard."

Duplicate chart cut into lines and inserted in a rack.—Miss Hardy then brought out a duplicate chart of the rhyme. She said, "Here I have another copy of the chart without the picture. See if it looks the same . . . four lines . . . Jack be nimble . . . just the same. Do you think it would be fun to cut off each line and have a child put it where it belongs in this rack?" indicating a rack which hung on the blackboard and was so constructed that cardboard strips could be easily inserted.¹ With appropriate remarks each line was cut off and given to a child

¹ "The Plymouth Chart." Chicago: Plymouth Press, 6749 Wentworth Avenue, \$4.00. It consists of a strong sheet of paper with ledges in which strips may be inserted.

who was assisted in placing it in the rack. With the last line she said, "Isn't 'candlestick' a long word? We can easily tell it because it is so long."

Game of finding corresponding lines in the two charts.—"Now," she said, "I am going to give you a new game. I am going to take a line out of the rack while you have your eyes shut. Then you look to see which line is missing and find the same line on the other chart. Be sure to study it out before you raise your hand. Now, blind your eyes."

Taking out the strip "Jack be quick," she said, "Ready." After giving most of the children time to raise their hands, John was called on, "What line is it?" "Jack be quick" said John. "That's right; now match it up on the full chart (i.e., hold it under the line that says the same thing) and then put it back where it belongs in the rack."

The game was then repeated with the third line, "Jack jump over." The child who was called on said it read, "Jack be quick." The teacher then assisted him to read the complete chart from the beginning until he came to and recognized the correct line. The game was continued until all lines had been used.

Game of giving children lines from rack and recalling and replacing them.—"Now we will play another game," said Miss Hardy. "I will give each line to a child, and when I call for that line, the child who has it must run up and match it on the whole chart and then place it where it belongs in the rack." After the strips were handed out, she said, "Who has the first line?" but the child who had it was not sure although her neighbor, looking over her shoulder volunteered, "I know who has." "Florence," said the teacher, "I think you have. Run up and match it. . . . That's it. What does it say? . . . Put it in place," and so on until all the strips were returned, the children being more successful as they grasped the idea of the game.

Test showed children knew location but not form of a word.—The period was now almost over. A little test or demonstration of what the children knew and did not know came when Miss Hardy said, "I see the word 'Jack' some other place in this room. I wonder who can find it." The children looked around and located

a picture cut from a magazine showing a boy going to school with his father. Under the picture Miss Hardy had printed on a card in large letters:

This is Jack.
He is going to school.

One of the children who volunteered was asked to hold a short strip of cardboard under the word "Jack." Instead he held it under "This is." Why? Because in the rhyme, "Jack" was always at the beginning of the line, and this child had an idea of its location but not of its form. "Come to the rhyme and find 'Jack,'" said Miss Hardy. "That's right. Now look at it closely and then find the same word on the other card." This time the child succeeded easily, and the class was turned over to the gymnasium teacher for a period of outdoor play.

THIRD DAY WITH "JACK BE NIMBLE"
BEGINNING "JACK AND JILL"

Review reading of rhyme and lines.—Next day, after the children had "hopped" to their chairs, the rhyme was reviewed as follows:

First, individual children were given a chance to read the whole chart through, advancing to it and holding a long strip of cardboard under each line as read.

Miss Hardy then inserted the separate lines in the rack as she got responses to her questions, "What will the line say that I put in first?" "What will the next line say?"

Pupil became "teacher" in game of blinding eyes and guessing removed line.—Miss Hardy then said, "We are going to play again the game in which you blind your eyes and somebody takes out a strip and you find which one it is. Only, this time we will let a child be the teacher." She then called on a child who advanced to the rack and proceeded as follows: (1) Said, "Blind your eyes." (2) Took out a line. (3) Whispered to the teacher what the line said. (4) Said, "Ready." (5) The children held up their hands. (6) She called on Mary. (7) Mary named the right line, was given the strip, matched it with the corresponding line on the full chart, returned it to the rack, and in turn became the "teacher." Three children were given turns in this game.

Blackboard activity for all in rhythmic drawing to rhyme.—"Now," said Miss Hardy, "we are all going to the blackboard and make Jack jumping over the candlestick. I have marked off spaces for children on the side board. Count the spaces. How many are there? . . . How many children are there? . . . How many more spaces do we need? . . . All right, I will mark off four more on the front board." The children then went to the board. They were asked each to show his right hand and left hand, as some were not sure which was which; to take the chalk in the right hand; to draw a candlestick in the *middle* of the space; then to start the chalk at the *left* side of the space and as they recited the rhyme to draw the curved lines to show Jack jumping back and forth.

"Jack and Jill" told by children and played at blackboard.—The children then returned to their seats, and the teacher said, "I am thinking of another verse that has Jack in it. Can you think of one? Mine begins 'Jack and,'" whereupon several of the children were ready immediately with "Jill, went up the hill," etc. "Who will show us at the blackboard the hill with Jack and Jill going up and tumbling down, something like we showed Jack jumping over the candlestick?" The first child to go to the board made a curve resembling two hill tops. After some further trials the class agreed on a curve like the first line of the letter *a*, and all went to their places at the board and practiced it rhythmically while saying in unison the complete rhyme about Jack and Jill.

Written on blackboard by teacher as children dictate.—Then the pupils returned to their chairs, and the teacher suggested that she write the rhyme on the board and prepare a chart of it for the next day. They first recited the rhyme in unison, and then Miss Hardy said she would write it as they told her what to write. "What shall I write first?" The children said "Jack and Jill went up the hill." This was written as two short lines thus:

Jack and Jill
Went up the hill.

Why? We shall see later. The children eagerly anticipated each succeeding line and volunteered joyful remarks about "how long" some of the lines were.

Children read rhyme while running pointer under each line.—A few minutes remained for reading the whole rhyme through, one child, with Miss Hardy's assistance, running a pointer under each line as it was read. "Tomorrow," said the teacher, "we shall have this rhyme printed for you on a chart."

FOURTH DAY OF RHYME READING. CHART OF "JACK AND JILL"

Free conversation about the picture.—When the chart was displayed the next day the children volunteered various remarks about the picture which was at the top, such as, "Jack is tumbling down." "Jill hasn't tumbled yet." Miss Hardy added comments about the "heavy pail of water," the "steep hill," etc.

Chart read as in case of "Jack be nimble."—The chart was then read in a manner similar to the reading of the candlestick chart, as suggested briefly in the following memoranda.

1. *Whole in unison.*—"Let's all read it together," said Miss Hardy, and they proceeded as she held a long strip of cardboard under each line.

2. *Whole by one pupil; praise for good reading.*—"Florence, come and read. Hold the cardboard under each line. . . . That's fine. We can always hear Florence because she reads so clearly."

3. *"Finding the line that says." Mild rebuke for irresponsible child.*—"Who sees the line that says, 'Went up the hill?'" Mary raised her hand and was called on but was not ready. "You must always see the line before you hold up your hand." Several lines were practiced in this way, a child advancing, placing the cardboard under the desired line, and reading it.

4. *Inserting separate strips in rack. Children on watch for mistakes.*—"Now, all stand up. Here I have each line on a separate strip. . . . Let's see if I have enough. How many lines are on the chart? . . . Count my strips. . . . Which one must I put in first? . . . Now I am going to put in the others rapidly, and you must watch to see that I don't make any mistakes." Miss Hardy then purposely inserted "Broke his crown" before "Jack fell down." The brighter children soon discovered this and suggested the correct change. Seats were then resumed.

5. *Blinding eyes and finding removed line.*—They then played twice the game of having the class blind their eyes while one child

took out of the rack a line which the class then proceeded to discover on the chart.

New stage; learning individual words. Children matched word cards with words in rhyme.—The teaching then proceeded to an entirely new stage as Miss Hardy produced a pack of cards upon each of which was printed a word in large letters. The words were "Jack," "went," "hill," "water," "up," "down," "fell," "after," and "over," the last word being brought in from the candlestick rhyme. She said, "You see these cards. They are not lines. They are just words. Some are taken from the first line; some are from the second line. John, here is one for you. Your word is in the first line. See if you can find it. Florence, your word is in the second line." Each child was given a card until all were supplied. "Study your line carefully to find a word that looks just like yours. As soon as you find it, raise your hand. . . . All right. Hands down. We will begin with Arthur. When I call your name, run up to the chart, hold your card under the right word and tell us what it is. Now, Arthur."

Matched correctly but could not name. Reading as far as matched word.—Arthur matched the word "went" correctly in the first line but when Miss Hardy asked, "What does it say?" he could not tell. By reading the line from the beginning, however, he easily found what it said. The next child matched "hill" correctly but called it "Jill." Miss Hardy helped her to point at each word from the beginning of the rhyme as teacher and child read *rapidly and smoothly* as far as "hill." The next child was taught "up" in the same way. "All watch carefully," said Miss Hardy, "for you may have to find this same word later."

Flash drill with cards called "moving-picture show."—The period then concluded with a rapid "flashing" of the cards by the teacher, a game which they called their "moving-picture show." "Remember," said the teacher, "as I bring each card from the back of the pack, you watch it carefully, and just as soon as I place it on the front, you tell me what it is."

FIFTH DAY OF RHYME READING

Principally drill games with word cards and rhyme chart.—After the preliminaries of getting seated the next day, Miss Hardy

said, "I have so many games for you today that we must do them quickly. First we will read the whole rhyme. We will let Alice do it because she has such a good, clear voice."

After this reading, they played very briefly "finding the line which says."

Each child was given a word card to match and name. Appropriate hygienic remarks and praise.—Next, each child was given a word card and told to find the same word in a given line on the chart. After all had their hands up except two children, Miss Hardy said to these, "You watch and we will help you later. Hands down," and the game proceeded as on the day before. Incidental remarks were made about keeping the cards away from the mouth and face and holding them correctly. To the child who had "Jack," Miss Hardy said, "See how many 'Jacks' you can find," and when he had found four, "Good for you." When a boy found the word "water" quickly and said it, appropriate praise was bestowed. Then to the class she said, "Everyone look at this word and say it."

Special devices for some words.—To the cards for "up" and "down" special attention was called. "Children, look at these two words. The short one is 'up'; the longer one is 'down.' When you play see-saw you go up and down [making appropriate gestures with the corresponding word card]. I am going to mix these two words up. See if you can tell me quickly which one I show you," proceeding to flash "up" and "down" several times. Similarly, devices were employed with the words "after" and "over" which were giving special difficulty.

"Moving-picture-show" game again.—The children then stood up while the "moving-picture-show" game was run off by flashing the cards.

Teacher inserted individual words in rack as pupils named each.—The children being seated, Miss Hardy said, "Now, I am going to put these words in the rack. They will be all mixed up, and as soon as I place a word I want you to tell me what it is."

Naming each word as teacher points. Pupils on qui vive for speed.—This process finished, she said, "As I place an eraser under each word, say it. See if you can say it so fast I can hardly

keep ahead of you. . . . That's fine; but if you don't know them, don't say them.

Pupil pointed at all words and named all correctly.—"Now Harry may say all the words as he holds the eraser under each. Wasn't that fine? He said every word right. Let's clap for him."

Blinding the eyes and then finding the word pointed at.—The reading lesson then concluded with a new "blind-the-eyes" game. One child blinded his eyes in the corner. Another ran to the rack, held an eraser under one word, e.g., "over," returned to his seat, and said, "Ready." The child from the corner stepped to the rack and, placing the eraser under each word in turn, said, "Is it 'water'?" In unison the children answered, "No, it is not 'water,'" and so on until he said, "Is it 'over'?" whereupon they clapped their hands and cried, "Yes, it is 'over'."

The "old-cat-is-asleep" game; activity, fun, moral training.—As a matter of relaxation and physical activity, the teacher then introduced the children to a game that seemed to the observer to be merely a child's game (i.e., not a game for teaching reading), namely, a game called "the old cat is asleep." This is a form of the musical chair game. The children played it twice with zest, and as some of them tended to run to the chairs before the last word of "cannot catch us" was said, Miss Hardy made an appropriate remark about "playing fair."

Nine separate words learned by sight.—Subtracting such relaxation activities, about fifteen minutes of actual reading activity had been observed. The children had acquired by this time greater familiarity with the printed lines and knew with fair accuracy the nine separate words which scarcely any of them had been able to name shortly before the end of the reading period of the previous day.

SIXTH DAY OF RHYME READING

"The old cat is asleep."—Unexpectedly to the observer, the next day's reading period began with the new game "the old cat is asleep" which had been played the day before. After playing the game again, Miss Hardy produced a chart with the picture of "the old cat" and the lines:

The old cat is asleep,
The old cat is asleep,
The old cat is fast asleep,
And cannot catch us.

Strips cut up before children's eyes to obtain phrases and words.—The reading lesson with this material followed the same plan as the preceding ones, namely, first reading it as a whole, then finding individual lines, then drill on single phrases and words. This time Miss Hardy cut up the separate strips or lines before the children's eyes to obtain the individual word cards.

Examples of special aid to slow pupils.—This process helped some of the children considerably, for while some had succeeded admirably in every activity, from reading the whole to matching and naming individual words, other children were making very slow progress. For example, one child could not understand the term "last word." Miss Hardy said to him, "Tell me the last word in this line," as she pointed to and read, "The old cat is fast asleep." The child said, "The old cat is fast asleep." "No, dear," said Miss Hardy, "I want just the last word. Now listen for it as I say the line," which she did while pointing at each word in turn. Again from the child, the same answer, "The old cat is fast asleep."

Another example of a slow child occurred in identifying the word "old." The child had been given the word card for "old" and was trying to match it on either chart, the whole one or the cut-up one in the rack. He had five chances, five "olds" before his eyes, and he could not find one. Miss Hardy took the phrase "The old cat" from the rack. She read it with the child. Then she cut off "The" and asked what was left. Then she cut off "cat" and asked what was left. The child said "old" and seemed to know it. He matched it correctly with the five "olds" which remained in the chart and rack. Miss Hardy then gave the work a "forward look," a device which she frequently used, by saying to the class, "When we come to read in our story books we want to be sure about this word "old" because we shall read about the *old* woman, the *old* man, and the *old* cat many times." After about two minutes of practice or "game" with the last line, "And cannot

catch us," Miss Hardy returned to the child who had been given special practice with "old." Holding up the "old" card she asked, "What does this say?" "Can," said the boy. Such are the difficulties encountered by and with slow learners—difficulties that call for the most watchful, sympathetic, patient, and persistent individual attention from the teacher.

SUBSEQUENT SPECIFIC READING LESSONS WITH OTHER TYPES OF MATERIAL

Goldilocks and the three bears.—While the rhyme reading described above was being carried on during the reading periods, the children had been concerned during the literature and construction periods with the experiences of Goldilocks and the three bears. The pupils had constructed in the sand pan a paper house for the three bears, and had surrounded it with twigs and leaves to represent a forest through which roamed, hand in hand, three plasticine bears.

Manila-paper book of reading selections made by each child to show parents.—Each child had also made a book from manila paper in which to paste the verses and stories which they had been reading, "so they could take them home to read to mama and papa." Each child's copy of a jingle or story was printed by Miss Hardy who set up rubber letters in a wooden type holder, thus making a rubber stamp from which the necessary copies could easily be made.

Pupils composed story of the three bears to paste in book.—When it came to putting the "three bears" story in the books, the class spent some time in boiling it down to a few short lines that would best tell just what they had done. They finally chose these:

We made a house.

It is in the woods.

We made three bears.

One is a big bear.

One is a middle-sized bear.

One is a little bear.

Reading practice with this material as with nursery rhymes.—The reading practice with this material followed the same general lines as described for the nursery rhymes.

Five weeks of gameful pre-primer blackboard and chart reading to initiate correct reading attitudes and habits.—Such gameful chart reading, gradually merging with reading of the same materials pasted in the books which they made, constituted the reading activity of the first five or six weeks. It is one example of the common practice in progressive schools and reading systems of giving considerable pre-primer reading before a regularly printed book is begun. So many fundamental principles of psychology and methods of teaching reading are involved that we shall now turn to the systematic exposition of them as illustrated by Miss Hardy's lessons. Then we shall describe concretely the second and third stages in developing skill in reading, namely, training in reading in a printed book, and training in the independent recognition of new words. The first stage, with which we are now concerned, is intended to initiate certain correct reading attitudes and habits which may persist throughout the pupils' later reading in and out of school. In the next instalment we shall present nine principles or rules which justify the detailed devices for teaching pre-primer blackboard and chart reading as described.

ARTICLE II

II. PRE-PRIMER BLACKBOARD AND CHART READING

[Continued]

B. PRINCIPLES

1. *Initiate correct reading attitudes; not mere word-calling.*—

Perhaps the most important principle of teaching reading which is illustrated by Miss Hardy's pre-primer lessons is the necessity of giving the pupils a correct *attitude* toward the reading material. We may easily illustrate what we mean by using a negative example, namely, we do *not* want the child to form the attitude of merely trying to pronounce words without regard for their meanings. Yet this was the dominant attitude of first-grade children in much of the old-fashioned teaching of reading, in which a child stood up with a book in his hand and, with his eye glued upon each word in turn, haltingly read, "This"—"is"—"a"—"cat."

Varieties of reading attitudes; poetry versus headlines, "funnies" versus Gettysburg address.—Just how to define or describe the correct initial reading attitude is slightly difficult because the attitudes differ somewhat with different types of reading material. For example, contrast the attitudes in reading poetry and in rapidly scanning a newspaper column. In the poetry reading your attitude is likely to include enjoying the lilt and swing of the rhythm, and your reading, consequently, will include careful rhythmic phrasing. In the newspaper scanning your attitude is one of neglecting much of the material and actively "grabbing off" a few ideas or statements. Another example of contrasting attitudes in reading is found in reading the "funnies" in the newspaper and reading Lincoln's Gettysburg address. We do not need to describe the

different attitudes in these two cases, since they are so obviously different. The emotional "set" of our mind in the case of reading the "funnies" is such that it shocks us to think of approaching Lincoln's address with the same attitude.

Getting meaningful and interesting experiences from the earliest reading.—These variations in reading attitudes become of very great practical importance in training in skilled reading; for example, training a pupil to *enjoy reading poetry* involves a very different type of practice from training him to *scan a newspaper column economically and effectively*. As related to training in various types of skilled silent reading, such *variations* in reading attitudes should be discussed in great detail. For our present purposes, however, it is sufficient to note that perhaps the biggest factor in determining Miss Hardy's method of approaching reading is the desire to make it as much like real reading as possible from the very beginning. In such real reading, the attitude of getting some type of meaningful and interesting experience from the printed material is a dominant feature.

2. *Meaningful content necessary. Action words, incidental reading.*—In order to develop the attitude of getting meaning from printed material, it is necessary to select content that is especially suited to this purpose. The simple action words with which Miss Hardy began furnish an admirable example, for, when such words as "hop" and "skip" are written on the board as commands, not only does the attention center on the meaning, but the pupil must grasp the meaning before he can execute the command. Similarly, when such words as "barn" or "house" appear on the plan of the farm which is to be made in the sand pan, the attention naturally centers on their meaning.

Nursery rhymes give a complex experience which constitutes their meaning.—When we come to the nursery rhymes, however, the meanings to be gotten from the reading become much more complex, since the whole complex experience of a child's enjoyment of a nursery rhyme is involved. This experience consists of much more than understanding the individual words or even understanding all the phrases. This fact may be illustrated by the reading experiences of a colleague who says that at least once a

year he gets hungry to read certain of Poe's poems, and, consequently, has read them many times. "Yet," he says, "for the life of me, I can't tell what Poe is talking about in several places." Similarly, in teaching children to read "Jack and Jill" we are concerned primarily with giving them the big reading experiences which children naturally get from such material. Necessarily, this will include an understanding of most of the words and phrases such as "went up the hill" and "came tumbling after." The picture above the rhyme helps some children in getting these ideas. It would hardly be desirable, however, to dwell at any length on the meaning of "broke his crown." In fact, I have often wondered what notion a child associates with this phrase. Certainly, it would not be pleasing to give him a vivid, gruesome picture of a child with a broken head.

"Meaningful content" and "meaningful experience" need broad interpretation.—These simple examples help us to get farther and farther away from the practice of mere word-pronouncing as characteristic of reading. We are dissatisfied not only with mere word-pronouncing, but also with mere understanding of isolated words and phrases. What we need in the reading of continuous material, from the very first lessons, is the grasp of large meanings, the enjoyment of complex experiences which go far beyond the meanings of the individual words that relate them. Among the most characteristic of such experiences in childhood are those associated with nursery rhymes. By introducing these early into the reading, we are providing the child with meaningful content, the total significance of which he readily grasps, and the detailed words and phrases of which he sufficiently understands.

3. *Delightful content cultivates the desire to read.*—The reading attitude which we should endeavor to cultivate in children includes not only the tendency to grasp the meaning of printed material, but also an active desire to read more and more. We want the pupil to feel that reading furnishes *delightful* experiences. We want to cultivate in him the tendency to take up books and read them with the same spontaneity and zeal with which he enters into games, or the same entranced delight with which he listens to a story being told. This furnishes another reason for the choice of interesting

nursery rhymes or such stories as "Goldilocks and the Three Bears." When we come to the primer reading, we shall see how thoroughly this idea is being carried out by filling the books with all the treasures of childhood's fairyland of myth and fable, adventure and romance.

4. *Get the whole thought of experience, then subdivide for reading practice.*—From the idea expressed, namely, that reading from the very beginning should present meaningful interesting experiences to children, it follows naturally that the reading of any one selection should begin with its fundamental story features. After these have been adequately treated, then the content may be subdivided for a number of forms of reading practice. In Miss Hardy's lessons we find the following steps are taken in proceeding from the whole story to the study of individual words: (a) The pupils learn the whole nursery rhyme or compose orally the whole story of Goldilocks in the exact words in which it is later to be read. (b) They tell the teacher exactly how to write the whole story on the board. (c) They read the story as a whole. (d) They learn to recognize individual lines and phrases. (e) They learn to recognize and remember the individual words.

The lessons which we described show that much of the refined technique of teaching pre-primer reading depends upon the skilful carrying out of the foregoing processes in the order indicated. The prospective teacher of first-grade reading should study Miss Hardy's devices, from this point of view, in great detail. For our more general purposes we may note briefly three features of her practice, namely, (a) the careful *preparatory steps* before presenting the printed or written whole, (b) the training of pupils to *recognize individual lines and phrases*, and (c) the necessity and value of *familiarizing them with individual words*.

Careful preparation before reading includes exact memorizing of rhymes or stories.—The exact memorizing of the rhyme or story before reading it is necessary in order that there may be no confusion when the reading begins. For example, when the children first recited "Jack and Jill," some of them said "*fetch*" and others said "*get* a pail of water." By adopting one of these and discarding the other, the chance for a confusing association was avoided.

Moreover, in the case of children from illiterate or poor or non-literary families, there are sure to be some who are unfamiliar with the rhyme. The result of such careful preparation is that all the children have the full meaning and oral statement exactly in mind and are intensely interested in telling the teacher what to write. They are thus prepared to read it as an interesting, meaningful whole. As suggested, this constitutes one of the finest points in the expert teaching of the first lessons in reading and is in striking contrast with the child's first experiences in the old-fashioned teaching of reading in which he haltingly attacked individual words and struggled through hours of meaningless drudgery.

Children may easily learn to recognize short phrases as wholes. An important reading attitude.—After the whole rhyme or story had been written or printed, Miss Hardy conducted a number of games in which the children handled, read, and recognized individual lines or phrases. The possibility of recognizing such units has long been a well-known fact to psychologists and is easily proved by the success of the children in doing it. The justification for making it the second step in the reading of the rhyme is the desire to train pupils to think in such large meaningful units while reading. This is another factor in establishing correct reading attitudes which we have emphasized throughout the discussion. In skilled continuous reading, we do not read by words alone, but rather in units of meaning of which the single words are merely the skeleton structure. While the beginning pupil must go through many years of practice before he can reach the general facility in phrase recognition that characterizes the skilful, trained reader, he can learn some phrases at the very beginning; and, more important still, he can make the modest beginnings of a reading attitude or reading habit which will prove of vital importance later. A detail of Miss Hardy's technique which illustrates her careful thought about the pupils' possibilities in phrase recognition is found in her writing of the first lines of "Jack and Jill." When the children told her to write "Jack and Jill went up the hill," she skilfully broke it into two lines, thus,

Jack and Jill
Went up the hill.

It is obvious that the two phrase units which are thus secured are much better suited for recognition by beginning readers than the single long line in which they were combined.

Word recognition necessary and possible.—It is obvious, however, that we need to go farther than phrase recognition and familiarize the pupil with individual words in order that he may use these as tools wherever they appear in his reading. For example, the child who has learned the word "Jack" in "Jack be nimble" can use it as an aid in learning "Jack and Jill." Similarly, he can use other single words from the first rhyme in reading the second one, such as "the" and "and." The possibility of learning such individual words "by sight" is another item ascertained by the psychologists at the same time that they found out about phrase recognition. The obvious success of children in doing it leaves no doubt of the possibility. During their pre-primer reading in Miss Hardy's room, most of the children became thoroughly familiar with many *sight words* which they could recognize and use in reading new material.

Four principles summarized: correct attitudes; meaningful content; desire to read; analytical learning.—The four principles of teaching reading which we have discussed up to this point may be summarized as follows: (1) Pre-primer reading should initiate the correct reading attitude of trying to get meaningful and interesting experiences from printed or written material. (2) To cultivate this attitude, content such as action words and nursery rhymes should be selected which entices the pupils to focus their attention upon the meanings. (3) The attitude of *desiring to read* is also initiated by the intense interest which children attach to nursery rhymes and stories. (4) In beginning the reading of any selection, the whole thought or experience should receive first attention; then the material may be subdivided into lines, phrases, and individual words for reading practice. These points describe the method of approaching reading that is securing more and more general adoption in progressive elementary schools. We shall now consider certain further general principles of teaching as they apply to the teaching of reading and were illustrated in Miss Hardy's lessons.

5. *A single center of attention is secured by chart and blackboard reading.*—When a class has its first reading lessons from a book instead of the blackboard or a chart, it is difficult for the teacher to make sure that the children are all giving their attention to the line or phrase or word which is being discussed. On the other hand, with the material on the blackboard or on a chart, it is easy for the teacher or a child to point at a certain portion of it and direct the attention of all interested pupils to the same point. This is one of the greatest advantages of using a blackboard in any kind of instruction, and every teacher should become skilled in blackboard writing and drawing and be resourceful in devising occasions to secure attention and clarify ideas by these means. In the complex activities which Miss Hardy directed, it is obvious that much of the success depended upon the single objective center which secured immediate, spontaneous, and rapt attention of most of the pupils.

6. *Special equipment of charts and word cards improves technique.*—The use of a chart as the single objective center of attention in the first reading lessons is merely one example of the enormous improvements that are made possible in teaching by slight enrichments or modifications of the equipment. In the case of teaching reading, other important items are the single lines on separate strips and the word cards. With the single lines on long strips, Miss Hardy had some difficulty until she found the special rack into which they could be easily fitted. This rack is known as the "Plymouth Chart" and consists of a long sheet of paper with horizontal ledges or grooves into which the strips can be easily inserted, even by the children who naturally take delight in doing it. Most of the commercialized reading systems now furnish charts and word cards for their early lessons. In case a resourceful teacher desires to compose her own lessons, as Miss Hardy did, she may procure an outfit of large type, such as is used by merchants in printing signs, and sheets of manila tag board, $23\frac{1}{2}$ by $28\frac{1}{2}$ inches. In view of the complex responsibilities which confront a teacher in her first year of teaching, it would probably be well for the beginner to use some of the ready-made materials which are in accord with the principles of teaching reading here described.

Bulletin board for incidental reading.—The beginner may supplement such ready-made material with a variety of homemade charts, some of which may be thumb-tacked on the bulletin board, another important item of equipment. The surface of the bulletin board is best made of sheet cork. As noted in the first article, a "line for the day" makes attractive incidental reading matter to bulletin; also pictures cut from magazines and illustrating some of the activities of the class may be used to good effect. To these pictures may be added attractive legends in large letters. In case a teacher does not possess a printing outfit, or lacks the time to use it, she may easily acquire skill in lettering with black crayon sufficient to dash off these legends very rapidly. Even in very poor circumstances, a bulletin situation could be devised by using a corner of the blackboard and writing with chalk.

7. *Organize interesting activities, particularly games, with the reading materials.*—Some educators have believed that the desire to read is sufficient in itself to maintain the interest necessary for acquiring skill in reading. It takes only a little knowledge of the complexity and difficulty of the process of learning reading, however, to show us that very few children would acquire sufficient skill merely from this motive. Moreover, as already pointed out, the desire to read is not a condition which we assume to exist in the pupils, but is to be a product of our teaching of reading in such a manner as to make all reading experiences delightful. In the discussion of this point, the opportunities for providing inherently delightful *material* for the pupils were stressed as a means to aid in creating the desire to read throughout life. Our present point is to emphasize interesting *activities* with this material as a means of securing the attentive practice and repetition which are necessary to create automatic skill in reading.

Practice sugar-coated with games; the open sesame of childhood.—The greatest basis of interesting practice activities in pre-primer reading is the pupils' intense interest in games. The phrase "play a game" is the open-sesame charm which progressive teachers now use throughout the grades to secure rapt attention in all types of practice—in handwriting, spelling, reading, arithmetic, and language. Attentive effective practice and learning can be secured

with all kinds of educative materials provided they are sugar-coated with games which require concentrated attention upon the educative activities. Miss Hardy's lessons abounded in illustrations. The children played the game of "finding the line which says," gave close attention to the several lines as an essential part of the game, and learned to recognize the lines readily as the educative result. In the "moving-picture-show" game of flashing cards, the pupils were eagerly expectant and raptly attentive to each card as flashed, and learned to name the words rapidly and automatically as the educative result. The beginning teacher of first-grade reading should study carefully such gameful devices for securing interest and attentive educative practice.

8. *Drill games require alertness and refined teaching technique.*—The effective conduct of drill games demands considerable automatic skill from the teacher. I was impressed with this fact in watching a practice teacher in the first grade. She had planned about six little games with word cards to consume about ten minutes. In order that she might keep her games in mind, she had written in an obscure corner of the side board a list of them in letters very small but sufficiently large for her to see. As a consequence, she was able to keep her program in mind and maintain the zeal and "pep" which are characteristic of active games. While she did quite well in her teaching, I could feel the same contrast between her technique and Miss Hardy's that one feels between the movements of a beginner in skating or basket ball, on the one hand, and the smoothly moving professional in these activities, on the other hand.

9. *Careful attention to individual differences in capacity to learn reading. Grouping first-graders according to ability.*—As a final principle to be noted in discussing pre-primer reading, we may note the necessity of adapting the teaching to the varied abilities of the pupils. In the preceding article we noted cases of two especially slow pupils, one who couldn't pick out the "last word" in a line and the other who failed to recognize the word "old" two minutes after he had been given thorough drill upon it. At the opposite extreme, we find children of five years of age who have a natural talent for learning to read and do so with little difficulty.

In progressive first grades, during the pre-primer reading, the pupils are carefully studied and grouped and regrouped according to the abilities they exhibit in learning to read. For example, Miss Hardy's group which was observed was the brighter of two groups that had been given no previous instruction in reading. At the end of five weeks of pre-primer reading, the slower group was about one week behind this brighter group. An even more advanced group consisted of children who had been instructed in reading in the kindergarten.

Skill from pre-primer reading makes book reading easy.—In general, the scientific studies of the maturing of children's abilities, as well as the success of progressive, gameful methods of teaching pre-primer reading, demonstrate that most children are mature enough to learn the art of easy reading at six years of age. In the blackboard and chart reading, these children experience little or no difficulty. When they come to book reading, the skill which they have acquired during the five weeks of pre-primer reading simplifies their difficulties enormously, so that with simple, familiar material they readily read page after page with joy and delight. In the next section of the discussion we shall describe concretely Miss Hardy's first lessons with the primer and then discuss the additional principles of teaching reading which these book lessons illustrate. Before turning to the book reading, we may profitably summarize briefly the nine principles of teaching reading presented in this section.

Summary of rules for teaching pre-primer reading.—These nine rules may be phrased as follows:

1. Initiate the correct reading attitude of trying to get meaningful and interesting experiences from printed material.
2. Provide meaningful content.
3. Create a desire to read through delightful interesting content.
4. Proceed analytically from the whole story to lines and phrases and then to individual words.
5. Secure a single objective center for the attention of all pupils by beginning with blackboard or chart reading.
6. Provide a special equipment of charts, cards, pictures, legends, and a bulletin board to facilitate reading practice.

7. Organize interesting activities to secure the attentive repetition needed to give automatic skill in the elements of reading.
8. Master the technique of conducting drill games.
9. Group pupils according to their natural talent or advancement in reading and give special individual attention to the slow learners.

III. BEGINNING BOOK READING

A. SAMPLE LESSONS

First selection read previously from chart. Easy transition.—The reading from charts which we have described continued in Miss Hardy's room during the first five weeks of school. The transition was then made to reading from a regular "primer." This transition was rendered easy by having the last chart contain the first story of the primer in exactly the same form.

FAMILIARIZING PUPILS WITH THE NEW BOOKS

Children eager to possess and read the promised books.—Before beginning the first lesson with the books, Miss Hardy asked, "What was it I said we were going to have today?" "Books!" cried the children, "Where are they?" and other exclamations in joyous tones. "Shall I get them?" queried Miss Hardy. "Yes! yes!" The teacher then brought out the pile of new books, and the class counted the children and the books and found one book too many. This was laid aside for an *absent* child.

Compared with pasted books and similar home copies.—Miss Hardy held up one copy and said: "See, this book has a name just as we have names for the books *we* have been making. The name here is 'Primer.' Here are also the names of the two people who wrote the stories for us, and here is the name of the person who made all the nice pictures in it." Many of the children recognized the book as one their older brothers or sisters had owned and volunteered, "We have a book at home just like that," or similar comments. "I shall give each child a book," said Miss Hardy. "Look through it quickly to see if there is anything you know."

Children freely examined books and volunteered comments.—Upon receiving the books there were many exclamations. "Oh! there is the Gingerbread Boy," "My pages are all stuck together," "I can read this story," etc.

Child's request for certain story led to table of contents.—One boy wanted to know if a certain story was in the book. The teacher told him to look at the table of contents, then asked all the children to look. Some of the children began to count the titles of the stories in the table of contents. About five minutes were consumed in permitting the children such random, spontaneous activity with the book.

Manila line-marker to each child; table of contents read.—Miss Hardy then brought the group to attention by saying, "Look up here, everyone. I am going to give you each a marker," showing a strip of durable manila paper about 4 inches long and 1 inch wide. "Place it under the name of the first story, and then move it down as I read each name. . . . The first line says what?" The children gave this title as they had learned it on the chart. "And what page?" The children answered correctly. The teacher then read each succeeding line, meanwhile watching the group closely and assisting slow pupils to move their markers to the appropriate lines.

READING OF FIRST STORY

Story first told by children from its successive pictures.—"Now all turn to the first story," said the teacher. The children quickly recognized it as the one from the last chart. "Let's all look at the pictures together to see if it is the same story we know. . . . What is happening in the first picture? . . . What do you see in the second picture?" and so on until all the pictures had been examined and the story of each told by the children.

Rapid reading. Markers moved carefully; line scanned silently; hands raised; chosen pupil read line orally.—"Now turn back to the first page," directed Miss Hardy, "and we shall read the story. . . . Put your markers under the title. Always keep your markers very still. Read the title. . . . Gideon. . . . Now put your markers under the first line and get ready to tell what it says. Read silently. . . . John, read it to us. . . . Now the next line. Move your markers; study it; read silently. Then raise your hand to tell me what it says." As the children proceeded there were exclamations of "I know," etc., and giggles of delight at recognizing the familiar lines. Occasionally the class read a difficult line in unison. Several pages were easily read in a few

minutes, Miss Hardy showing the children how the story continued from the bottom of a left-hand page to the top of a right-hand page, etc.

Each child became "responsible" for his own book.—At the end of the hour the teacher said, "Put your markers in the books and close them. Notice how clean your markers are. They will keep clean if you use them only for markers. Each child is *responsible* for his own book. Do you remember we learned yesterday what 'responsible' means? . . . Put them in your desks carefully."

READING OF SECOND STORY

Preparation. Dramatic telling by teacher; second telling with new word cards; flash practice with cards.—Reading the second story in the primer marked another step in advance because this was done without preliminary reading of it on a chart. However, careful preparation was made for the new story by spending a whole reading period upon it before opening the books. This preparatory period contained three steps as follows: (1) The teacher told the story in the exact words of the book, bringing out clearly its dramatic interest. (2) She retold it and held up appropriate word cards or phrases which were peculiarly characteristic of the story or repeated frequently in it. (3) She then used these cards in a flash drill, closely relating them to the story by such remarks as, "Don't you remember? This is the name of the second animal he met," etc.

The *reading* of this second story on the following day, in the books, proceeded largely as in the case of the first story, according to the following steps:

Children told the story from the pictures.—About five minutes were spent in examining the pictures one after another, and having the children tell the story from them. There was much free expression by the children in this stage, but the teacher also, by skilful questioning, got them to use many of the exact phrases as they would appear in the reading.

Actual reading. Markers; units of one or more lines; teacher suggests content of lines; rebukes careless pupil; aids slow pupil; commends good reading.—After examining all the pictures, they

returned to the first page of the story and, using their markers, read systematically through several pages. The following remarks by the teacher will add the local color of the situation. "Turn back to the first page. . . . Now, if everybody does everything just right, we can read far today. . . . Read the first line silently; then one of you may read it to the group. It names one of the characters in the story. . . . Now see what the next sentence says. . . . The last sentence says what? It begins with 'So.' . . . Now we have two lines to read together. This is harder, isn't it? But we can do it all right if we use our markers. . . . The next line tells what he [referring to the hero of the story] does. Are you ready, Allison? That's the fourth time you dropped your book. When children drop their books four times that means they aren't ready for them. [Allison didn't drop his book again.] The next three lines tell what the boy says. All read silently and then raise your hands. Now all move your markers back and we will read these three lines together. . . . Does some word puzzle you there, John? . . . Wait a minute, Franklin, it's this line, here [constantly watching the compact little circle of readers to aid individual pupils who were in difficulty]. . . . Good for you, Mary, but I could hardly hear you. Read it again."

Coherent, rapid, meaningful reading. Drill relegated to separate period.—With such coherent group reading, aided by alert attention of the teacher to the needs of individual pupils, the story was rapidly completed. In order to make this type of rapid, meaningful reading the dominant activity of the reading period, most of the repetitional drill work on individual words had now been assigned to separate periods which were called "word study." Before turning to a description of this activity, we shall discuss some of the general principles of teaching beginning reading which may be illustrated by the book lessons described.

ARTICLE III

III. BEGINNING BOOK READING

[Continued]

B. PRINCIPLES

1. *Secure continuous, coherent, rapid, meaningful reading.*—The largest factor in determining the nature of the first lessons in book reading which were described in the preceding article is probably the desire to continue the formation of correct reading attitudes and habits by facilitating continuous, coherent, rapid, meaningful reading by the pupils. This purpose predominated throughout the pre-primer reading and is easily realized in the early book lessons as a result of the skill acquired in the pre-primer reading. To the observer who is unfamiliar with progressive methods in teaching reading, it is a revelation to see first-grade children during their first three or four days with book reading rapidly complete some twenty pages of storied material with interest, comprehension, fluency, and dispatch.

2. *Complexities of first book reading simplified by first reading same story on the chart.*—Reading in a book for the first time requires many complex mental and muscular activities of the pupil. These include not only mental attention to the forms of the words, phrases, and sentences, but also difficulties in holding the book and especially in moving the eyes from word to word and from the end of one line to the beginning of the next. If the pupil has had no preliminary reading practice, it is futile to expect coherent, continuous, smooth reading under such complicated, trying conditions. On the other hand, if he has acquired some general facility

in reading larger printed forms and particularly has read upon a chart the same story that he undertakes to read in the book, the mental difficulties of coherent reading of this first story are almost entirely removed, leaving only the muscular adjustments of hand and eye to give difficulty.

3. *Continuous, thrilling, storied material encourages page-after-page reading.*—In order to encourage continuous coherent reading, the content of the first book lessons must be of a connected, continuous character. Hence, in the best recent primers we find real stories at the very beginning, each of which may extend over several pages. Each story has a definite plot which tends to carry the little reader along to the end. Great skill has been exhibited by a number of writers and publishers since about 1910 in composing and publishing such material. The stories are usually classics of childhood, such as "The Three Billy Goats Gruff," "Little Red Riding Hood," "Goldilocks," "The Little Red Hen," and "The Ginger Bread Boy," which have proved fascinating to children for generations. It is an interesting historical fact that while such stories had been contained in reading books for the later grades for many years, it was not until recently that they were introduced into the primers for the first lessons. This introduction came as the result of the acceptance of the general point of view in teaching reading which has been emphasized in these articles, namely, developing attitudes and habits of securing meaningful, interesting experiences from the very beginning of reading.

4. *Repetitional phrases of certain child classics especially facilitate continuous, easy reading.*—Since the classic plots of children's stories were already at hand, the skill of the primer writers consisted chiefly in phrasing the narrative so as to facilitate easy reading. Stories constructed on the general plan of "The House that Jack Built" were frequently chosen in order to secure repetition of words and phrases. Such a story usually has some unsolved problem that holds interest to the end and involves one of the characters meeting the others in turn in such a manner as to call for frequent repetition of the whole story up to date. Thus there is a gradual addition of new material or difficulties with frequent repetition of older phrases. This gives a happy balance between easy repetition and a

few new words, and enables the children early to read with considerable fluency, provided the teacher is skilled in introducing the story so as to anticipate the vocabulary difficulties.

5. *Preparation for reading the story includes dramatic telling, new words on cards, telling from pictures.*—In preparing for the reading of the second story, Miss Hardy introduced it by first telling it dramatically herself and then retelling it with display of new words upon cards at appropriate places. These words were then restudied in connection with parts of the oral story. Finally, after the books were in hand, the children, before reading the story, told it as they found it represented in the pictures. This practice attaches especial importance and significance to the pictures in the making of a primer. As a consequence, high-grade artists are employed to draw them. The results are pictures full of story and action which the pupils delight in beholding.

6. *Rapidly read many stories in many books.*—When the story is finally read, it is completed rapidly and the next story soon begun. This eliminates the old-fashioned practice of reading the same stories in a single primer over and over. Instead, after one primer is quickly finished, another is begun, with the result that from ten to twenty books, including first readers, may be completed in one year. Since nearly all these books possess the same type of stories about animals and common things, the vocabulary demands may be quite small, but the actual practice in fundamental reading habits very large. In order to make these fundamental reading habits the chief factor in the reading period, most of the repetitional, gameful drill with word cards is placed in a separate period. This separate drill activity, through automatizing the recognition of sight words, greatly aids the activity of the reading period. By being separated, however, it is kept from detracting from the interpretative reading attitudes and the mental and muscular practice in continuous reading which predominate in the reading period.

7. *Muscular adjustments of eyes in finding and following the line aided by marker.*—The muscular practice referred to consists largely of practice in moving the eyes step by step along each line and then swinging them back to the beginning of the next line.

Little children have special difficulties in making such fine motor adjustments. Even an adult reader has difficulty in some cases in finding with his eyes the beginning of the next line, for example, in case he is reading a very wide page containing very long lines. An adult may even have difficulty in keeping his eyes on a single line in cases like reading a wide statistical table. In such cases an adult is very likely to use a ruler or a piece of paper to mark the line and guide his eyes. The same device was used by Miss Hardy's children in the form of a strip of manila paper. This not only aids each child's eyes in finding and following the line, but also aids the teacher in holding the attention of all the pupils upon the same line as she says, "Now move your markers to the third line," etc. It thus contributes to securing the continuous, coherent, rapid reading which we have emphasized.

Summary of rules for beginning book reading.—The discussion of the teaching of the first lessons in book reading may be summarized in the seven following rules:

1. Secure continuous, coherent, rapid, meaningful reading.
2. Introduce the first story by preliminary reading of it on a chart in order to simplify the complexities of the first book reading.
3. Use continuous, thrilling storied material to encourage page-after-page reading.
4. Choose child classics with repetitional phrases to facilitate continuous, easy reading.
5. Prepare for fluent reading of the first few stories by telling each story before reading it, showing new words on cards, and having the pupils retell the story from the pictures.
6. Read rapidly many stories in many books.
7. Have each pupil use a line marker to aid the eyes and to secure attention of all pupils to the same line.

In this series of articles we have emphasized the teaching of reading as vitally related to children's experiences in the first grade with games, constructive activities, nursery rhymes, and thrilling adventures found in the classic stories of childhood. All the technique employed in the teaching has tended to establish in the pupils the fundamental reading attitude and habits of trying to get meaningful, interesting experiences from printed material.

At the same time, the child has been acquiring certain mechanical habits of moving his eyes and a vocabulary of sight words which he can use as tools in reading many stories containing his familiar vocabulary. It is highly desirable, however, to extend the pupil's skill so that he can read material in which unfamiliar printed forms occur; in other words, to make him an independent reader of all types of material adapted to his age. For this reason, after the fundamental correct reading attitudes and habits had been well started, we found Miss Hardy introducing the third phase of first-grade reading, to which we shall now turn our attention.

IV. INDEPENDENT RECOGNITION OF NEW WORDS PHONETIC ANALYSIS

A. SAMPLE LESSONS

Third phase of beginning reading.—The descriptions of the reading in Miss Hardy's room carried us through the first two principal phases: (1) Incidental reading and the reading of rhymes and stories from charts. (2) Beginning to read in the primer. At the beginning of the sixth week, the third phase of reading was introduced, namely, phonetic training to enable the children to analyze and name new words instead of having to be taught each word "by sight." We shall describe Miss Hardy's introduction to the phonetic sounds and to the phonetic analysis of words and then take up a scientific study of the necessity and value of such training.

Some children early interested in rhyming words and in similar beginnings.—Occasionally, before the beginning of the sixth week, some of the children gave evidence of their natural interest in words that sound alike by voluntary remarks about words that rhymed in the jingles they were studying, such as "Jill" and "hill." Some of them had even noticed the similar beginnings of words as Miss Hardy wrote them on the board. For example, the word "Save" had become very familiar as a note to the janitor. One day when the teacher wrote "Sam," a pupil said "You begin that word just like 'Save.'" On another occasion a pupil suggested that "man" and "met" looked something alike.

First phonetic lesson. Learning the sound of "m" as initial sound of four familiar words.—The first sound which the children learned

was that of the consonant *m*. It was taught during a portion of a word-study period. For the lesson Miss Hardy selected four words beginning with *m*, which the children had used in their reading and which they knew well by sight, namely, *met*, *man*, *make*, and *made*. After some preliminaries, the major steps in the teaching were the following:

1. Miss Hardy asked the children to listen carefully as she pronounced the four words and then to tell her what part *sounded the same*. They readily said, "The first part."

2. She then said, "Watch my lips as I say each word so that you can hear that first sound."

3. Then she brought out a small chart on which the words were printed. These were pronounced and the first sound connected with the sight of the first letter.

4. She wrote the words on the blackboard and the children noted how they all began the same.

5. The children were then asked to think of other words which began with the same sound. One said, "Money." Another said, "Margery." One child who was not getting the point said, "Little."

6. The teacher said, "I am thinking of something the cow gives which begins with this sound." The children said, "Milk." Again, "I am thinking of a kind of pie we have at Thanksgiving." "Mince," they said. Similar questions with easy obvious answers were given until most of the children had the sound well in mind and connected with the beginnings of certain familiar words.

Second phonetic lesson. Learning the sound of "s." Details of technique.—Two days later during a word-study period the second sound was taught, namely, that of the consonant *s*. About seven minutes were consumed in the following activities:

1. "The other day we discovered many words that begin with the same sound," said Miss Hardy. The children immediately began to hum the sound of *m* and volunteered, "met, man," etc., as she held up the old chart.

2. "This morning we are going to have some more words which you know and see with what sound they begin. Look at my lips and listen," she said, as she pronounced, *seed*, *so*, *said*, *some*—all

familiar words from the reading lessons. The children immediately volunteered the hissing *s* sound. One child said, "That's the snake's sound." "How do you know?" asked Miss Hardy. "My mother told me."

3. A chart with the words printed on it was then studied, the teacher pointing at the beginning of each word as it was pronounced.

4. In response to the teacher's request, "I want you to tell me a word that begins with this sound," the children gave "sore" and "say." The teacher added "Sunday" and said, "I am thinking of a boy's name that begins with this sound." "John," said one child. "No, Sam is the word." "That's my uncle's name," volunteered one of the youngsters who were nearly all ready now with additional words such as "saw" and "salmon."

5. "Are you ready to see me write one of these words?" queried Miss Hardy. "I am going to write this first word," pointing at "seed." . . . "What does it say?" and so on till all were written.

6. "Now watch me as I erase one of the words; then tell me which one it was." The game element in this activity held the children's rapt attention. Finally all words were erased.

7. The children were then taught to write the word "seed" at the blackboard.

8. Before dismissing the children the phonetic work of the period was then briefly recalled by Miss Hardy, with such remarks as "What sound does seed begin with? . . . What was another word on that card? . . . Let's say them all through again. . . . How many think you will know that sound when you see a word in your books that begins with it?"

Puzzled about teaching word families. Need experiments on how children learn phonetic analysis.—With similar detailed devices, Miss Hardy proceeded to teach the sounds of other consonants. She then reached a stage that puzzles first-grade teachers of phonetics, namely, teaching the sounds and combinations of the vowels. The puzzling issue is whether (1) to attach the vowel to the final consonant of a short word, for example, "e at," thus giving the "at" family, or (2) to attach the vowel to the

initial consonant, thus, "ca t", which is urged by some experts in phonetics who object to the "family" idea. Much argument has been printed concerning this issue, but I know of no precise experimental study of *how children learn to pronounce* which will give us a valid, scientific answer. There is much discussion in terms of the phonetic structure of words, but few experiments on *how children learn*. For this reason, Miss Hardy stated that she did not feel as confident of her technique at this stage as in some of the other stages. However, the following account gives a general idea of part of her procedure.

Vowel sounds derived by cutting consonants from short words.—

The following table of words illustrates the material used in the derivation of the short vowel sounds.

cat	met	bit	not	cut
bat	get	fit	got	but
rat	let	hit	hot	nut

When the teacher wrote the first column of this material, the children easily recognized the words or quickly learned them. Having already learned the consonant sounds, they easily gave each when the teacher covered up the other parts of the word.

When she erased the final *t* and asked what was left, the children said, "ca, ba, ra." Then, when she erased the initial consonants of these syllables and asked what was left, the pupils gave the short sound of *a*. Similar procedure with the other columns, plus many additional short words, enabled the children themselves to discover the short sounds of the vowels and to gain skill in pronouncing new short words containing them. They were told that these vowel sounds were called *short*.

Long sounds learned; then rule determining long or short.—

Later, the children were told that sometimes the vowels are not called short, but are called the opposite; whereupon they themselves supplied the word "long." From a study of words which they already knew, such as "late" and "rode," they became familiar with the long sounds and learned that generally when a short word ends in *e* the latter is silent and the other vowel is long.

Many devices for concreteness, activity, interest, and drill.—

The reader will readily understand that this later teaching was not

carried on in the rapid, abstract manner that this brief description of it may suggest, but extended over many days and at all stages was characterized by the concrete beginnings, the varied delightful activities of the pupils, and the gameful, repetitional drill devices which we found ever present in the earlier descriptions of Miss Hardy's lessons. Owing to the great length of these articles we must refrain from giving further details concerning the phonetic instruction and present briefly the general principles of training in the independent recognition of new words which Miss Hardy's lessons indicate.

B. PRINCIPLES

1. *Without phonetic training pupils become inaccurate, dependent readers.*—Complete proof of the necessity and value of phonetic training in the recognition of new words must be postponed until the next article which will present the results of scientific studies of reading. We may anticipate, however, by stating that pupils who have not had training in independent word analysis prove to be, on the average, much more inaccurate in their reading than pupils who have had this training. Even from common observation one can readily appreciate the desirability of training pupils so that they can rapidly and accurately decipher the new words which they meet in their everyday reading in and out of school, instead of merely recognizing the words which they have already learned by sight.

2. *Teach in a separate period.*—In order to protect the sight-reading period from interfering attitudes, the phonetic instruction and drill are best given in a separate period. Such skill as is acquired in these separate periods will be used, however, where needed in the regular reading period. This will be illustrated later in an account of a second-grade lesson.

3. *Derive the sounds by analyzing familiar words.*—In Miss Hardy's lessons it was shown how the word drill upon certain words from the reading lessons was naturally and easily directed into a study of the initial sounds of the words. Some of the children had already of their own accord shown an interest in these sounds. The study of the latter represents the final step in the analytical learning, from whole to parts, already described. Such learning

proceeds from the whole story to individual lines and phrases, then to drill on individual words, and finally to the sounds composing the words.

4. *Teach the easy sounds early.*—This rule is illustrated by the consonants *s* and *b*. The hissing sound of the *s* is easily separated from the words and pronounced by children, but the sound of *b* is more difficult even for an adult to learn to make. The ordinary result when an adult tries to pronounce *b* is really the sound of the phonogram *bu*.

5. *Teach the most useful sounds early.*—This rule is illustrated by the short and long sounds of the vowels. One authority estimates that in the Jones spelling list 61 per cent of the phonetic syllables have short vowels, and 10 per cent of the phonetic syllables have the vowels made long by final *e*. These frequencies justify us in early teaching the short sounds of the vowels, and quickly following with words in which the vowels are made long by final *e*.

6. *Teach habits of analyzing words that will help in all later reading.*—In general, this rule means that pupils will be given much practice in straightforward attack upon unfamiliar or new words. One of the facts which will come out in the next article on the scientific investigations of reading is the existence of very halting, confused methods of attacking new words that characterize many poor readers. Only sufficient practice in using methods of phonetic analysis will give mastery of them and lead to a confident straightforward attack.

7. *Use a ready-made scientific system of teaching phonetics.*—The few comments which we have made suggest that the effective mastery of phonetic tools and analysis cannot be left to the haphazard effort of inexperienced unskilled teachers. Just as in the teaching of handwriting and spelling, we need ready-made, scientifically constructed systems. In phonetic teaching these systems will be derived from a study of (1) the phonetics of the common English words and (2) the methods and devices by which children most readily acquire skill in phonetic analysis. There is available at least one system in which the first factor, namely, the phonetics of the language, has been given careful consideration. It also has applied such knowledge of how children learn phonetic

analysis as is available. However, many more detailed investigations are needed of children's experiences in learning particular sounds, phonetic combinations, and syllabification before ready-made systems for teaching phonetic analysis can be perfected.

Conclusion of first-grade reading. Correct reading habits plus skill in word analysis.—This will conclude the discussion of first-grade reading as derived from the actual lessons observed in Miss Hardy's room. These lessons and the interpretative discussion have given a notion of modern progressive methods of teaching reading to pupils in the first grade. The initial emphasis is placed on forming the correct reading attitude of trying to get meaningful interesting experiences from printed material. For this purpose action words, nursery rhymes, and continuous storied material were used to enable children early to take a delight in fluent reading. After the fundamental reading attitudes and habits had been correctly started, systematic training for the independent phonetic analysis of new words was started at the beginning of the sixth week. Throughout the first year both of these types of practice are emphasized, namely, (1) easy, fluent, delightful reading and (2) practice in phonetic analysis. In order to give the reader an idea of the results of such teaching, as well as the modifications that occur in the technique as the children gain more skill, a reading lesson observed in the autumn in a second-grade room, will be described briefly.

V. A SECOND-GRADE LESSON ILLUSTRATING ACHIEVEMENTS AND TECHNIQUE

Preparation. Discussion of monkeys and crocodiles.—The second-grade children assembled in their little chairs in the front of the room just as the first-graders had done. Miss Laura Lucas, their teacher, spent about two minutes in a preparatory discussion before turning to the story which they were to read. Among her questions and remarks, which were interspersed with answers from the children, were the following: "How many of you, when you went to the zoo, saw the crocodiles?" "How do they move, quickly or slowly?" "Do they climb trees like monkeys?" (Some of the children said they do.) "What kind of country do they live in,

cold or hot?" Where do monkeys live; in what kind of country?" "If a crocodile wanted to catch a monkey, how would he do it?" "I thought this morning you would like to read a story about how a crocodile tried to catch a monkey." "The animals we are going to read about lived in a country called 'India,'" said the teacher as she wrote the word "India" on the board. She then wrote "Mr. Crocodile" and "Mr. Monkey," saying, "They called each other by these names."

Silent reading. Books presented to pupils.—"When I give you your books, turn to page 85, read silently, and tell me if there are any words you do not know."

Much whispered vocalization indicated stage of development.—The children followed these directions and read the story silently with perfect attention. There was much whispered vocalization, showing that most of the children were not reading to themselves any faster than they could pronounce the words.

Assistance in phonetic analysis of new words given individually.—Those children who needed assistance advanced individually to the teacher who was now seated in a low chair. As each child pointed out the words he did not know, Miss Lucas gave him help in such a low tone that the others were not distracted. As a rule she did not tell a child outright, but helped him use his phonetic ability. For example, she said, "You have two vowels here, Clarence; which one do you pronounce?"

Lack of phonetic training necessitated much help for one child.—Some of the children did not need any assistance. Most of them asked only once. One girl, however, requested help five times. After the lesson Miss Lucas told me that this child entered from another school where she had not had phonetic training; consequently, she could not decipher the new words. She was being given special training to correct her deficiency.

Difficult words written on board in order of occurrence.—As the children asked for help on particular words, Miss Lucas made a memorandum of each on a card and then wrote them on the board in the order in which they occurred in the story, together with other words or phrases to which she desired to call their attention. The

list is as follows: greedy, catch, bank, fond of fruit, swam along, surface, started, stupid, angry, narrow, moved, crawled, hello, afraid. Those who had finished the silent reading were told to study the words on the board.

Pupils related the story. Showed successful silent reading.—After all the pupils had finished reading the story silently, Miss Lucas said, "Put your finger in the place and close your books. Will someone tell us just how it happened that the crocodile wanted to catch the monkey?" A pupil gave his answer.

"What was his first plan to catch the monkey?" A boy described the plan.

"Tell us about the second plan, Damon."

The pupils talked very freely and related the story so clearly that it was obvious they had thoroughly grasped it in their silent reading.

Difficult words on board. Explained if pupils requested.—Miss Lucas then said, "Here are some of the words you asked for. If there is any word here that any child doesn't know, hold up your hand." She then explained certain of the words as the pupils requested.

Pupils pronounce and weave new words into oral story.—Miss Lucas then reviewed all the words by telling the story briefly and pointing at each word as it worked into the story. Instead of pronouncing it herself, however, she had the pupils say it in unison. For example, the last word "afraid" was inserted by the children as she said, "Then the monkey was so . . . that he didn't go near the place any more."

Oral reading. Rapid, connected, fluent audience reading aided by teacher's suggestions.—Since there were several visitors present, Miss Lucas then had the children read the story orally in a rapid continuous manner. She gave occasional suggestions such as the following:

"I'll ask Esther to start reading. . . ." "Remember, now you are speaking to him, Esther." "What did he answer, Frank?" "Then, how did the crocodile find the monkey?" "What did the crocodile say, Robert?" "Not quite so fast, Emerson, so

we can hear every word." "Now, Constance, these people are talking back and forth. Read just like you were talking, just like you would say it if you were the monkey."

Plan to represent characters of story and improve reading.—At the end of the reading there was a discussion arising out of the teacher's suggestion that next time they read the story again with different children taking the parts of the characters in the story. Miss Lucas asked, "How might we make our reading better?" The pupils gave various answers such as "Get our words together," "Read like people talk," and "Know the place."

New problem of rate of oral and silent reading.—It is scarcely necessary to enter into a detailed statement of the principles of teaching reading illustrated by this second-grade lesson. There is the same careful balance of (1) rapid grasp of meanings and (2) skill in independent analysis of new words which prevailed in the later weeks of the first-grade reading. The pupils are now real readers; they can take up a story adapted to their stage of development and get from its silent perusal the meanings and delight which it is intended to convey. There are, however, certain facts which need further discussion and interpretation. For example, though the children were reading silently in the ordinary sense of the term, most of them were vocalizing quite audibly, showing that they were not reading any faster than they could pronounce the words. The boy, Emerson, however, could recognize words and read so rapidly silently that when he came to read orally he enunciated so fast that the audience could not understand him easily. He had become such a skilled, rapid, silent reader, Miss Lucas said, that she provided him with much supplementary reading to fill his time.

Such instances raise important questions concerning the *rates* of oral and silent reading and the *relations* between oral and silent reading. These questions have been subjected to careful experimental study from which important conclusions have been derived concerning methods of teaching reading. In the next article these scientific studies will be discussed.

ARTICLE IV

VI. SCIENTIFIC INVESTIGATIONS OF READING

Divisions of this section.—The following features of the scientific investigations of reading will be considered briefly in this section in order to give some of the scientific background for the practical discussions found in the earlier articles. (1) Laboratory studies of word-recognition and of eye-movements. (2) Tests and scales for measuring oral and silent reading. (3) Conclusions from scientific investigations. These conclusions concern the relation of oral and silent reading, the value of phonetic instruction, the needs of pupils who read poorly, and the nature of reading as active, selective thinking.

LABORATORY STUDIES OF WORD-RECOGNITION AND OF EYE-MOVEMENTS

Experiments on flash recognition.—In the earlier accounts of first-grade lessons, we described methods of teaching children to recognize whole words at a glance, with no previous training in the alphabet or in spelling or phonetics. This practice is quite contrary to the old-fashioned idea that children had to know the letters before they could learn words. The obvious success of the children is sufficient proof of the possibility of whole-word recognition; but certain psychological experiments help to confirm our belief in the importance of such practice. Some of the earliest experiments upon such flash recognition of words were conducted by exposing letters and words to view for a measured fraction of a second. It was found that a long familiar word could be recognized at a glance; but if disordered letters were displayed, it took much longer to make them out.

Span of recognition of poor and good readers.—Similar experiments were used later in diagnosing the differences between children in reading ability. Thus, at the University of Chicago in 1916, special studies were made of the "span of recognition" of poor readers and good readers. It was found that when six words were exposed for about one-fifth of a second, a good reader recognized on the average more than *five* of the words, while a poor reader recognized less than *two* words. These experiments explain the

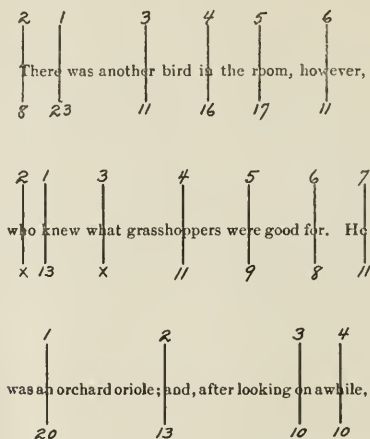


FIG. 1.—Silent reading by a rapid reader in the fourth grade. Each vertical line indicates one pause. The top number indicates the number of the pause and the bottom number its duration in fiftieths of a second. X indicates that it was impossible to determine with precision the length of the pause.

value of flash drills in the rapid recognition of words on cards as a means of speeding up pupils' recognition of familiar words. Experiments in the University of Chicago laboratory showed that such practice was helpful as high as the fourth grade.

Experiments in photographing eye-movements. Huey's notable book.—In the descriptions of the first lessons in book reading it was noted that the children used a manila paper line-marker to

guide their eyes along the line. This practice illustrates the recognition by psychologists that eye-movements are a fundamental factor in reading. The early efforts to study these movements began with simple observations of the eyes of a person while reading. If you will make such observations, you will see that the eyes proceed by jerks and pauses as they read a line, and then make a long sweep back to the beginning of the next line. One of the pioneer investigators of these movements was E. B. Huey,

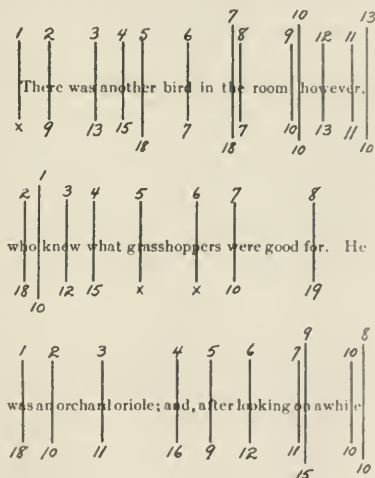


FIG. 2.—Silent reading by a poor reader in the fifth grade. X indicates that it was impossible to determine with precision the length of the pause.

who published in 1908 a book entitled *The Psychology and Pedagogy of Reading* (Macmillan Co.). This book was widely read by persons interested in the teaching of reading and is still one of the best sources of information about the history, psychology, and teaching of reading.

Judd's elaborate studies.—The most elaborate photographic studies of eye-movements have been made during recent years

at the University of Chicago, under the direction of Professor C. H. Judd. The special apparatus used cost approximately \$6,000, funds for the purchase of which were furnished by the General Education Board. One professor of education, on leave of absence from another institution, spent a whole year designing improved apparatus and making photographic records of the eye-movements of many adults and children. Several graduate students also conducted elaborate experiments. An account of the results of these experiments, together with much other material, was given by Judd in a monograph entitled *Reading: Its Nature and Development*, published in 1918. During 1921 Professor Judd was granted \$15,000 by the Commonwealth Fund to carry further these experimental investigations.

Poor reader may pause twice as often as good reader.—In these experimental studies of eye-movements, the most striking contrasts appear between good and poor readers in (1) the *number* of pauses which they make in reading a line, and (2) the amount of *confused eye-movement* that occurs. We cannot here consider these characteristics in detail, but we may note the difference between a good reader and a poor one in the number of pauses, as illustrated in Figures 1 and 2.¹ Each vertical line indicates a pause. It will be noted that the good fourth-grade reader paused only six times in reading the first line, while the poor fifth-grade reader paused thirteen times. Later in the article, we shall have occasion again to refer to the results of such experimental studies of eye-movements.

TESTS AND SCALES FOR MEASURING ORAL AND SILENT READING

Measuring reading is a complex matter.—Another type of investigation of reading has been the construction of scales for measuring the rate and quality of reading. In the case of handwriting or spelling, the construction of scales is comparatively easy, owing to the simplicity of the subject-matter. In the case of reading, the opposite is true. The complete measurement of skill in reading is very difficult on account of the complexity of

¹ Reproductions of Plates XXVII and XXX in *Reading: Its Nature and Development* by Charles Hubbard Judd, pp. 63 and 67.

the subject-matter and of the interpretative reactions of the pupils. However, great progress has been made in devising scales for measuring reading ability, and we shall note briefly a few of those which have been published.

Oral reading tests and scales. Gray's standardized paragraphs.—One of the most widely used scales for measuring ability in oral reading is that devised by Professor W. S. Gray of the University of Chicago. In testing ability in oral reading, the pupil is required to read certain standard paragraphs out loud to an observer who makes a written memorandum of the following factors in the reading: (1) The amount of time consumed; (2) the number of errors made: (a) gross mispronunciations, (b) minor mispronunciations, (c) omission of words, (d) insertion of words, (e) repetition of words or groups of words, and (f) substitution of one word or group of words for another.

Sample paragraphs illustrating increasing difficulty.—The material which the pupils read in this test consists of a series of short paragraphs which gradually increase in difficulty. The second, sixth, and eighth paragraphs are here reproduced.

2

Once there was a little pig.
He lived with his mother in a pen.
One day he saw his four feet.
“Mother,” he said, “what can I do
with my feet?”

His mother said, “You can run with
them.”

So the little pig ran round and round
the pen.

6

The part of farming enjoyed most by a boy
is the making of maple sugar. It is better than
blackberrying and almost as good as fishing.

One reason why a boy likes this work is that someone else does most of it. It is a sort of work in which he can appear to be very industrious and yet do but little.

8

The crown and glory of a useful life is character. It is the noblest possession of man. It forms a rank in itself, an estate in the general good will, dignifying every station and exalting every position in society. It exercises a greater power than wealth, and is a valuable means of securing honor.

One may easily note the progressive growth in difficulty. The twelfth and final paragraph, which is sufficiently difficult to test even high-school pupils, reads in part as follows:

The hypotheses concerning physical phenomena formulated by the early philosophers proved to be inconsistent and in general not universally applicable.

Humorous illustration of a pupil's experience with the test.—The pupil who is being tested reads successive paragraphs until he makes seven errors in each of two paragraphs. The increasing difficulty for the pupil is illustrated by the case of a boy who had been subjected to a number of medical examinations shortly before he encountered the oral-reading test. As he progressed through the paragraphs, and these became harder and harder, he stuttered and stammered, backed up, hesitated, and finally said to Mr. Gray: "I don't know what you're looking for, Mister; but whatever it is, I've sure got it."

Standard scores derived from wide use of the test.—While devising and standardizing these tests (about 1915), Gray tried them out extensively and carefully in thirteen cities in Illinois. Later they were used in surveys of reading in Cleveland, Grand Rapids, St. Louis, and Indianapolis. From the results of thus testing thousands of children in the oral reading of the same paragraphs, there has been derived a series of standard scores or achievements

which we can use in evaluating the success of the teaching of oral reading in any room, school, or system of schools. At the same time, we can use the tests and scores in diagnosing the needs of particular pupils and determining necessary changes in methods of teaching reading. We shall refer to some of the results of such studies of methods of teaching after noting examples of tests for measuring silent reading.

Silent-reading tests and scales. Courtis tests.—One of the best known and most convenient silent-reading tests is that of S. A. Courtis, of Detroit. This test is given to a class as a whole, which renders it more easy to administer than an oral-reading test which must necessarily be given individually. In the Courtis test, each child is given a little pamphlet containing a story and directions for reading it. In the first part of the test, upon a signal from the examiner, the pupils begin to read. At the end of each half minute, the examiner says, "Mark," whereupon each pupil draws a circle around the last word and goes on reading. From such records the *rates* of silent reading can be calculated.

Quality of pupil's studious comprehension tested by questions.—The second part of the Courtis test measures the quality of the pupil's silent reading by having him write the answers to a number of printed questions about the story. The material for this part of the test is printed in the back of the pamphlet and is divided into paragraphs followed by questions as indicated in the following sample:

When the day of the party came, Daddy planted a May-pole and Mother tied it with gay-colored ribbons. There were to be games and dances on the grass and a delicious supper, with a basketful of flowers for every child.

1. Were the children to have anything to eat?
2. Were they going to play on the grass?
3. Were they going into the house to dance?
4. Were the baskets to be full of flowers?
5. Was it Daddy who tied the ribbons to the pole?

Both rapidity and quality of comprehension measured.—There are some fourteen paragraphs similar to the foregoing in the story, and a total of about seventy questions. The time is limited so that even the best pupil will not complete the test; but all may do several minutes of work, thus giving them time really to get into the

swing of the task. The directions say, "Do not guess at the answers. If you do not remember what the story said, read the paragraph just above the questions again and again until you find the right answer." Thus the test measures both the rapidity and the accuracy of the pupil's comprehension.

Great variety of silent-reading tests. From word-recognition to solving problems.—A somewhat similar test was published by Professor E. L. Thorndike, of Columbia University, in 1914, and the results used by him in a number of articles in which he discussed the mental processes of pupils in understanding or misunderstanding sentences. Numerous other tests have been devised to measure various phases of reading, varying from the mere ability to recognize words to the ability to solve puzzle problems expressed in words.¹ Instead of discussing these varying types of tests, it will be more to our purpose to turn to a brief study of the ideas concerning the methods of teaching reading which have been derived from both the experimental laboratory studies of reading described earlier in the article and the use of tests and scales which we have just been considering.

CONCLUSIONS FROM SCIENTIFIC INVESTIGATIONS

Differences in oral and silent reading. Silent rate usually exceeds oral after fourth grade.—One of the important facts that early appeared from the use of standard tests of the reading of school children was that the rate of silent reading becomes more rapid than the rate of oral reading somewhere in the middle grades. We had one example of this fact in the second-grade lesson described in which a bright boy had already reached the stage in silent reading where he read second-grade material more rapidly than the pace of good oral reading. In the case of most pupils, this change comes in the third or fourth grade, depending upon the natural talent of the pupil and the methods used in teaching reading. After this point in the grades, most pupils will read more rapidly silently than orally. A pupil's rate in careful oral reading will never

¹ Probably the most convenient source from which to purchase school tests in all subjects is the Public School Publishing Company, Bloomington, Illinois. Write for their catalogue of tests. They co-operate with the very efficient Bureau of Educational Research of the University of Illinois in marketing selected tests.

exceed that of clear pronunciation, whereas his silent rate may advance far beyond this, becoming as high as 375 words per minute when he reaches high school if he is a specially skilled reader. This means that he could read a page of the length of this one, if it contained ordinary story material, in about one minute. To read it orally, at the ordinary pace, would take two minutes.

Photographs show differences in eye-movements in silent and oral reading.—One of the most objective and impressive demonstrations of the differences between a pupil's reading processes in silent reading and in oral reading is found in the photographic records of eye-movements. A clear case is shown in Figures 3 and 4,¹ which represent the eye-pauses of the same pupil in silent and in oral reading. In the silent-reading record it appears that the pupil's eyes in reading each line made only four stops and at very regular spatial intervals. In the oral-reading record, it is shown that his eyes made from seven to fourteen stops in a line and at quite irregular intervals.

Overemphasis on oral reading may interfere with silent.—Thus we have derived from the scientific investigations two important lines of evidence on the relation of oral and silent reading. The school tests show us where, on the average, the silent rate begins to exceed the oral; and the photographic records of eye-movements show how many more eye-pauses occur in oral than in silent reading. From such evidence investigators conclude that the common emphasis upon oral reading above the third grade seriously interferes with the development of habits of skilled silent reading, and that it would be better to give various types of practice especially suited to develop skill in silent reading.

Necessity of phonetic training shown by investigations.—Another useful point that has been determined by the scientific investigations is the necessity of special training in the accurate recognition of new words, such as the phonetic training described in the preceding articles. This fact appeared most clearly in Gray's survey of the results of teaching reading in one of the Middle-West cities that maintains an excellent school system. Like several progressive

¹ Reproductions of Plates XXXIII and XXXVIII in *Reading. Its Nature and Development* by Charles Hubbard Judd, pp. 72 and 78.

schools of recent years, this system tended to neglect the so-called "formal" phonetic drill in word-recognition. The fallacy of this neglect appeared when their results in reading were compared with those from other cities as measured by Gray's tests. In speaking of the situation in this particular city, Gray says:

The results of the oral-reading tests showed that the pupils . . . ranked low in accuracy of pronunciation and in ability to attack new words. Classroom observations revealed similar weaknesses. . . . Many teachers had no

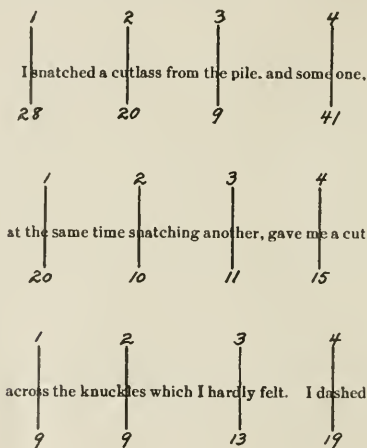


FIG. 3.—Silent reading by a good reader in the seventh grade

[phonetic] devices [for helping pupils], and some were almost helpless, if not inaccurate, in their attempts to aid the pupil. Several principals stated that many teachers had little or no knowledge or training in regard to the use of phonics. As evidenced by the facts cited above, there is real need of giving the problem of word analysis serious consideration in [this city]. Uniform methods of developing independence and accuracy in pronunciation should be considered, and teachers should be trained to make effective use of the adopted method.¹

Diagnosis of needs of poor readers by means of scientific devices.—The scientific devices for measuring reading ability which were

¹ *Elementary School Journal*, XIX (March, 1919), 511-12.

described earlier not only aid in the broad study of the average efficiency in reading instruction as illustrated in the foregoing quotation, but are also especially useful in diagnosing the needs of pupils who are having special difficulties with reading. A number of excellent investigations of types of poor readers have been published. Below is a paraphrase of Judd's description of the reading defects of a poor fifth-grade reader whom we shall call Grace, and the methods used to improve her reading. She

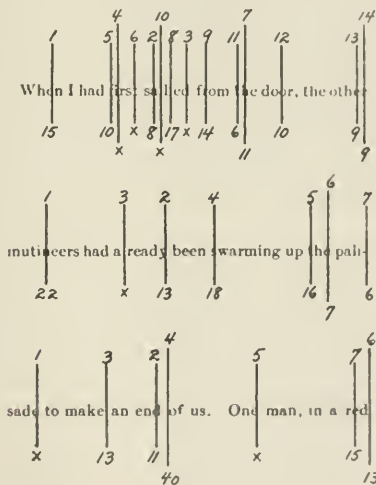


FIG. 4.—Oral reading by the pupil whose record for silent reading is shown in Fig. 3.

had attended three different schools up to the time of entering the University of Chicago Elementary School.

Disliked silent reading.—Grace had been included in the tests . . . and proved to be a slow, inefficient reader. . . . She could not unravel the intricacies of the printed lines which proved easy to many of her classmates. . . . The school physician's record showed that she was a normal, healthy child with no special defects

in eyes, ears, or throat. . . . Silent reading was particularly distasteful to her. She always settled down to it reluctantly. . . . From the home came the same story. "She has never read a story to herself, although she has several attractively illustrated children's books. She frequently, however, after eagerly studying the illustrations in a new book, begs to have the story read to her, saying, 'You read it, mother. I can't understand it very well when I read it myself.'"

Tests revealed special difficulties.—The various tests given to Grace revealed some interesting facts. . . . The pronunciation of unfamiliar words seemed most difficult. She usually hesitated a moment before attacking a new word and then whispered to herself the spelling of the word, letter by letter. . . . Her rate in silent reading showed an unusual condition. It was slower than the oral rate. . . . From the data it was evident that her difficulties in reading were due to a lack of familiarity with printed words and a lack of method of working out new or unknown word forms.

Eighteen weeks of special remedial training.—In an effort to help her to overcome this handicap, she was given various types of training during eighteen weeks, namely, six weeks devoted to a great deal of oral reading, six weeks in drills on phonics and in word analysis, and six weeks including a great deal of silent reading.

Later tests and improvements.—The silent and oral-reading tests which had been given before this special practice were repeated. . . . Grace now showed by her whole manner that she felt competent to do the tests. She wrote her answers with a precision and directness not at all characteristic of her earlier tests. . . . Her teachers reported that she now read with much greater ease and fluency of expression. . . . She seemed to enjoy reading silently much more than before training. . . . Frequently she expressed a preference for reading a passage silently, saying, "I can do it faster."¹

Individual cases reveal need of balanced training plus individual attention.—The foregoing statements give merely the bare out-

¹ Charles Hubbard Judd, *Reading: Its Nature and Development*, "Supplementary Educational Monographs," Vol. II, No. 4, pp. 82-89. Chicago: University of Chicago, 1918.

lines of the diagnosis and treatment of this case. A thorough reading of the whole account as given by Judd, together with accounts of many other cases, is desirable in order to get some comprehension of the complexity of reading habits and processes, and of the varied needs of poor readers. One pupil may read poorly because of absence during certain crucial months in the primary grades when the fundamentals of phonetics were being taught. Another may read poorly because he has had too exclusive phonetic training and never acquired correct habits and skill in interpreting the meaning of printed words. However, in spite of this variety of needs and processes, the difficulties of poor readers may be roughly classified into certain types, for which a well-organized system of teaching reading will provide by balancing the mechanical and interpretative features of the training as outlined in the preceding articles. When an individual pupil, because of absence or mental peculiarity, fails to profit from such balanced training, he should be carefully tested and appropriate individual training should be given him.

Investigators emphasize reading as a tool in acquiring ideas.—Up to this point in our discussion of the results of scientific investigations of reading, we have considered the following matters: (1) the difference between oral and silent reading and the consequent need of specific training in silent reading; (2) the defects of systems that neglect phonetic training and the need of such training; (3) the diagnosing of the needs of especially poor readers by standard tests and the means of correcting special defects. Finally, we may note how investigators of reading processes have come more and more to consider reading as a tool to be used in acquiring ideas and as a process involving careful, controlled thinking instead of mere passive perusal of a page.

Thorndike discusses processes of understanding sentences.—Professor Thorndike's tests of the understanding of sentences, as previously noted, have led him to give special emphasis to the idea that good reading involves good thinking. From the returns from his tests, he illustrated at great length the failures of poor readers to think carefully when reading a paragraph to obtain answers to certain questions.

In commenting on the types of errors that pupils make in such a reading test, Thorndike says:

There seems to be a strong tendency in human nature to accept as satisfactory whatever ideas arise quickly—to trust any course of thought that runs along fluently. If the question makes the pupil think of anything, or if he finds anything in the paragraph that seems to belong to the question, he accepts it without criticism. . . . This fishing around in the text for something to use, and its use without reorganization is perhaps the most debased form of selective thinking which school work shows. . . . The extent to which it prevails amongst pupils in even the higher grades shows the need for practice in reading and study. I am inclined to think, however, that the cure for it is not to repress the verbatim use of wrong, irrelevant or roughly appropriated quotations, but to permit it plus careful examination of the quotations to see if they really do meet the need. . . . The comprehension of text books . . . [is] far above the level of merely “passive” or “receptive” work. When the reading of text books . . . is really passive or receptive, comprehension will rarely result. . . . “To read” means “to think” as truly as does “to evaluate” or “to invent” or “to demonstrate” or “to verify.”¹

Conclusion.—This quotation is quite typical of the recent tendency among progressive investigators to think of reading processes not merely in terms of the special “reading period” but also in terms of what the pupils do with their textbooks and supplementary books in geography, history, science, arithmetic, and every other subject. In order to develop skill in the silent reading of such material, many types of teaching technique and devices are being organized in progressive schools. The description of these, however, is beyond the scope of this series of articles which is concerned merely with the methods, principles, and scientific investigations² of the teaching of “beginning reading.”

¹ E. L. Thorndike, “The Understanding of Sentences,” *Elementary School Journal*, XVIII (October, 1917), 98-114.

² A reference which will supply the reader with further material, summarizing in attractive, usable form the conclusions from many of the recent scientific investigations, is as follows: William S. Gray, “Principles of Method in the Teaching of Reading as Derived from Scientific Investigation,” *Eighteenth Yearbook of the National Society for the Study of Education, Part II*. Bloomington, Illinois: Public School Publishing Co., 1919. \$1.10.



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